DOCUMENT RESUME

ED 153 257 CS 204 099

AUTHOR Corbin, John H.
TITLE Application of Behavioral Theory in a Mastery Approach to Community College Remedial English.
PUB DATE Feb 78
NOTE 11p.; Paper presented at the Annual Meeting of the Midwest Regional Conference on English in the Two-Year College (Chicago, Illinois, February 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Behavioral Objectives; Cognitive Objectives; Community Colleges; *Composition (Literary); Composition Skills (Literary); *English Instruction; *Individualized Instruction; Junior Colleges; Mastery Learning; *Performance Based Education; *Remedial Programs

ABSTRACT

The components that one midwest community college uses in its remedial English composition program reflect applications of behavioral theory and include an explicit course goal; twelve small, sequential, cumulative instructional steps; explicitly stated behavioral objectives (based on Bloom's taxonomy in the cognitive domain); three forms of criterion referenced tests for each of the steps and in correspondence with the stated objectives; immediate feedback on all tests; non-punitive grading scale; and pretesting and posttesting that corresponds with course goals. Other components of the program that are convenience features for the students include an open writing lab, individualized tutoring, and self-pacing. The program also uses a post-course evaluation questionnaire as an experimental component. (To illustrate how these components interact, the progress of a typical student through the program is described.) (RL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED153257

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

APPLICATION OF BEHAVIORAL THEORY

IN A

MASTERY APPROACH TO COMMUNITY COLLEGE REMEDIAL ENGLISH

Presented to Midwest Regional Conference on English
in the Two-Year College

February 24, 1978

Chicago, Illinois

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

John H. Corbin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Presented by

John H. Corbin

Kalamazoo Valley Community College

Kalamazoo, Michigan 49009

CS204099

The developmental composition program I am describing is an application of a behavioral theory of learning that is identified by several names: Behavior modification, contingency management, and the Keller system are probably the most familiar labels. Among English teachers these labels and the principles that lie behind them conjure images of myopic psychologists huddled over mazes and their sadistic lab assistants torturing rats in the name of scientific inquiry. I recall seeing a film of a rat that had learned to leap up to a red triangle to get his food. One day the controller blocked the red triangle and all the poor rat got for his trouble was a bang on the snout. Rotten deal! Nobody bothered to tell the rat that the rules had been changed and that he had to leap through a green cirlce to get food. Clever fellow that he was, he found out for himself. He learned green circle and then black square when green circle was blocked. In time he threw his paws up in utter despair when all alternatives were blocked. He just lay down in a heap in the middle of the cage: The portrait of a neurotic rat. I have forgotten what lesson I was supposed to learn, but I remember thinking what a dirty bastard that psychologist was.

I have ambivalent moments, on the other hand, when I read of or hear about psychologists who retrieve autistic children from a vegetable existence or who teach delightful chimps to communicate symbolically with humans through a computer or with sign language. I'm certain that behavioral psychologists have more to teach us about learning and teaching than what bastards or nice guys they are. My concern is not to exorcise bad images; it is, rather, to describe innovations in teaching developmental English. I feel, however, compelled to describe the theoretical framework upon which our program is constructed in order to show how each

of the components within the program relates to that framework and to each other. I suspect that a good deal of the confusion and disarray within the profession stems from the absence of soundly based theory by which the available instructional programs may be measured. What is worse, applications of various innovations employed singly are turning up in studies which show little or no effect on students' writing skills. What works one place for one instructor is a flop at another place for another instructor -- is the place, or the instructor, or the students, or the mix the significant variable?

Behind every innovation in education there lies some set of basic assumptions about the nature of the subject to be taught and the persons who learn the subject. Of course, theories which would sound insane if applied to other disciplines abound on the teaching and learning of writing skills. For example, can you imagine a physics instructor's telling a student to listen to the "wee small voice within" in order to improve his performance in physics? Our discipline, however, has advocates of the "wee-small-voice" theory as well as the "prime-the-pump-and-open-the-spigot" theory and even the "tinker-with-the-environment" theory, each based on some perception of the nature of the learner and the nature of the discipline. And in certain contexts, with certain instructors, at certain times forces converge to produce a fortuitous effect. But unless that mix can be described and repeated in another context, it does little to advance the cause of learning. Like Deep Throat I say, "follow the theory."

The behaviorists present the theory of learning which has the most rational and humane appeal to me. It operates on the same principles as "Grandma's-apple-pie" theory of child rearing. "If you clean up your plate

and you eat all of your green beans, you can have a piece of apple pie." The major behavioral elements are contained in Grandma's principle. If certain specified contingencies are met, certain nice things will result. Grandma has the key to the pie safe; and if you do what you are supposed to, you will get your pie. What could be more reasonable and humane?

The connection I am asking you to make with the "apple-pie" theory begins with the perception of writing as a learnable set of highly complex behaviors. On one level, that sounds absurd. Of course, writing is a learned behavior. Advocates of the "wee-small-voice" theory, however, view writing as an innate ability unevenly distributed among humans. If we share that perception, we will view our task as teachers of composition as having to coax, titillate, or tease out inborn talent. That may be the way it is at Yale, but I feel very helpless and guilty when I confront masses of untalented community college students in my developmental comp. course. On the other hand, I can shuck off that surplus baggage of guilt and feelings of helplessness by proceeding to the proposition that every student is teachable. Teachable students and learnable behaviors I find to be a far more optimistic outlook than any other on the horizon. To that mix teachers bring a theory of learning that has been demonstrated in the laboratory, the clinic, and in the classroom to be effective. Such an approach to teaching and learning has some risks: There is no place to hide if our students fail to learn. We can't fall back on their lack of talent or motivation: We have to examine our applications of the theory.

The major components brought together in this program were included as an application of behavioral theory. Others were included as conveniences to students, economy measures, or experimental devices. The major components, behaviorally based are:

1. Explicit course goal
2. Twelve small, sequential, cumulative steps
3. Explicit behaviorally expressed objectives (ordered on Bloom's taxonomy cognitive educational objectives)
4. Three forms of criterion referenced step tests corresponding precisely to the objectives
5. Immediate feedback on all tests
6. Non-punitive grading scale
7. Pre- and posttesting corresponding with course goals

The next components are convenience features for students and contain some important political and economical considerations

8. Open writing lab
9. Individualized personal tutoring
10. Self-pacing (within specified limits)

Finally, the experimental component

11. Post course evaluation questionnaire.

The components function as a whole and it is difficult to isolate individual ingredients. To illustrate the interaction of the components, I'll track a typical student's progress through the Alpha English course.

His first contact with the program is the two part pretest. Part one contains a fifty-item grammar recognition test; part two, a five-paragraph essay to summarize. Part one is machine scored and eighty percent is considered an acceptable score. More than ten items missed assesses a five point penalty on the score. The score is determined by totaling the "weighted error points." Each error of content, organization, punctuation, spelling, manuscript form, grammar or usage is given a computer code number and is assigned a weight from three to five. As the summary is read,

coded numbers representing errors are recorded on a card; the card is sent to the data processing center where a printout listing the errors and totaling the error points is produced. The score generates one of five possible messages ranging from a congratulatory message (0 to 5 pts.) to a serious warning concerning the student's chances of surviving in a college-level English course (35 to 52 pts.). (The inside cover page and pages 1 and 2 of the "Information Booklet" summarize the results and the messages, and display a statistical distribution of the last 1025 scores.) Should the student elect to enroll in the developmental English program, he registers for a two credit course and reports to the Alpha English lab any time between 9:00 a.m. and 8:00 p.m. any day for an orientation session. During the orientation the "Information Booklet" and the text, Build on Basics, are examined. The test results are interpreted and the course goals explained.

The student is shown the organization of the text--the study objectives on yellow pages at the beginning of each step; the explanatory material, examples, and illustrations on the white pages; and the sample test items, Form A on pink, and Form B on blue pages. The most efficient study strategy calls for the student to examine the study objectives which define exactly what he must do to master that step's contents and to earn the grade points for that step. The study objectives are arranged in a three step hierarchy corresponding to Bloom's Taxonomy of Educational Objectives--Cognitive Domain. --conceptual, recognition, and application. It is impossible to overstate the value of the study objectives in this program. Besides delineating the behavior to be measured, they organize the material conceptually, leading to the application of the material under study. Furthermore, as will be

illustrated below, they provide a systematic method of diagnosing students' difficulcies and prescribing remedial measures. The study objectives paraphrased from Step One are characteristic of all of the steps' objectives. In effect, they lay down four conditions that the student must meet before he can earn the grade points and proceed to Step Two.

Thou Shalt:

1. Fill in the blanks with key words to complete an acceptable definition of a simple sentence
2. Analyze a given number of word groups and distinguish between examples and nonexamples of the definition
3. Identify which of the conditions within the definition are unmet in instances where the word groups are not simple sentences
4. Generate a given number of simple sentences from nonverbal (picture) cues.

The test over the step is organized after these four objectives.

In preparing for his test over Step One, the student is alone with his study objectives, his text materials, and his sample test items that show exactly the form in which the text will appear. He is responsible for preparing himself to pass the Form A test at the ninety percent level. Tutorial help is generally not available as students prepare for the Form A test: one unwritten course objective is to encourage independence, and our method is to reward successful independent study with the maximum grade points on the Form A test. A score of ninety percent or better (our definition of mastery) earns the maximum of ten grade points on a step test and the student proceeds to the next step. If he fails to achieve the ninety percent level, he is awarded only two grade points and he must prepare to take a Form B of the same step. However, before attempting Form B his test is analyzed by a tutor. "Where did the problems occur?

Were they conceptual--failure to memorize the key words in the definition--; were they a failure to distinguish examples from nonexamples; or finally, were they a failure to apply the grammatical concept in a writing situation?" The tutor has a handle on the nature of the students' problem(s) and can make adjustments in his study strategy. In ninety-five percent of the failures of Form A, a tutor can successfully guide the student through the materials he failed to master on his own. The tutor does not need to review the whole step, only those parts which gave the student trouble. Mastery of the Form B test gives the student the eight points he missed on Form A for a total of ten grade points. The student is not penalized for failure in any way other than he had to meet a very pleasant and efficient tutor and to retake a test. Failure on a Form B test, on the other hand, puts the students into the hands of an angry instructor. The student may have earned two more grade points for a score between sixty and eighty-nine, but he must undergo an interview with the instructor before he can attempt a Form C test. The interview may focus on the student's study behavior or may look for perceptual, emotional, or intellectual barriers to mastery. Referrals to specialized agencies as a result of such interviews occur every semester. Problems related to content or prerequisite information can be analyzed professionally and remedial instruction provided. At some point the student has one more--Form C--test. Again, ninety percent or better yields six more grade points, which, if added to the four earned for Forms A and B, still totals the maximum of ten. (The grade point schedule is described on page 5 of the "Information Booklet".) Less than mastery on Form C is reflected in the total grade points earned for a step.

Steps within the program have been sequenced to accumulate skills. Step Two repeats Step One more than fifty percent. Subsequent steps loop

back, repeat, and review previous steps to a lesser degree; none-the-less, cumulative information is another principle in the program design. Obviously, early steps are much simpler than later ones. By Step Three the typical student is totally familiar with the course structure and is able to exploit all of the resources built into the program. He experiences the increased difficulty, but the tutors help the student anticipate the difficulty and the open lab setting and the self-pacing allow for peer interaction. While working with one student experiencing trouble over a concept, a tutor might ask another student in the room what he did to learn the concept the week before. Such open contact shows the student that he's not the only one who has trouble. A mutually reenforcing atmosphere pervades the lab (although that's not behaviorally measurable). The ones who are a little ahead of the others get to brag a bit, and the ones behind see that the material can be mastered. There isn't much status in location inside the program since a person can begin any day of the semester. On any given day we may orient a new student and process a posttest. There are around 200 current files in the lab at any time and around eighty or ninety files of students working on incompletes from previous semesters.

Eventually the typical student brings his contact with Alpha English to a close either by completing the course or by withdrawing or failing. Completion is almost a certain 4.0; non-completion is almost a certain 0.0. The grading curve has two peaks and a long, flat valley. The mastery concept as applied in the program does not allow for partial credit. The student who says he wants only a 2.0 for elegibility or veterans benefits is counselled away from the program. It is much more difficult to earn a 2.0 than to earn a 4.0. The 4.0 student could earn his 140 grade points

merely by passing fourteen Form A tests. The 2.0 student must attempt all three forms of all fourteen steps and keep his Form C score between 75 and 89 percent in order mathematically to earn the grade. The system is very tight and rigid and tough to beat without learning. Mastery of the arts of cajolery, coaxing, bribery, flattery, bluster, intimidation will produce not one grade point; the only behaviors reenforced with grade points are those defined in the study objectives. If no other purpose were served by behavioral objects, they are valuable as compasses to keep us on course. Behaviors that fritter away our and students' time show up as irrelevant when measured by an immediate objective. Most students appreciate that concern for their time and energy in the long run.

And finally, the post test must be completed and passed before the course grade will be recorded. 140 grade points in the bank are worthless without a successful posttest. That sounds pretty brutal, but that requirement assures that the student will give the posttest his best effort. Passing is a score of sixteen or fewer error points. It occurs no more than two percent of the time that a student will fail a post test. In the event he does, the specific errors which caused the failure are treated with single concept instructional modules (SCIM's) and a retake is scheduled. No one has yet failed the retake. Our record keeping system described on page 6 of the "Information Booklet" shows how the writing progress for Steps Twelve, Thirteen, and Fourteen are plotted. Those steps are summaries similar to the pretest summary and they are graded by the same criteria as the pretest. A strong case demonstrating the effectiveness of the course can be made simply by comparing the mean pre test score of 33.0 with the mean post test score of 8.7. Although strict scientific controls were not applied, there is evidence enough to indicate that we are headed in the right direction.